REMARKS

Status of the Application

Applicants have complied with the Examiners request to bring the specification in the preferred layout of a utility application.

In the office action dated November 22, 2004, Claims 10 – 32 were rejected. In this response claims 10, 23, and 31 were amended and claims 22 and 30 were canceled. The remaining claims are pending.

Claim 10 on which the remaining claims are either directly or indirectly dependent has been amended to point out that the repair coating is a powder coating that is heat curable binder system that is self-crosslinking or externally crosslinked, and that the NIR radiation conditions of wave length, density and time used are set forth and the amended claims clearly distinguish Applicants' novel process from the cited references of Fujisawa US Patent 4,490,611 and Sukejima US Patent 5,852,067. These references clearly do not teach or suggest Applicants' novel process either alone or in combination.

Rejection under 35 U.S.C. 103

Claims 10-32 were rejected under 35U.S.C. 103(a) as being unpatentable over Fujisawa et al. US Patent 4,490,611 in view of Sukejima et al. US Patent 5,852,067. The basis for the Examiner's rejection is that Fujisawa teaches a method of repairing a defect on a multi-layer automotive paint coating using infrared radiation to melt and cure the repair coating in which the repair coating may be a solid (e.g. powdery) or semi-solid composition and Fujisawa teaches "infrared range" of 700nm – 1mm which overlaps Applicants' NIR range and therefore, the subject matter as a whole would have been obvious to one of ordinary skill in the art.

Applicants respectfully assert that in view of the amended claims, Applicants' novel process is unobvious in view of the cited references Fujisawa and Sukejima and that the claims as amended are patentable and the application is allowable.

Applicants' invention is directed to a process that uses a powder coating composition as a repair coating material to repair defects multilayer coating compositions using NIR radiation which provides for fast curing of the powder repair coating using only a short irradiation time. This process avoids the disadvantages as shown on page 1, paragraph 2, of the specification, for example, the use of high temperatures for curing the powder repair coating damages temperature sensitive

substrates, like, plastics, and temperature sensitive components attached to the coated areas. The novel process, for example, avoids the removal of temperature sensitive components subsequent heating of the repair area and reinstallation of the temperature sensitive components after curing of the repair finish.

Applicants claims are directed to using a powder coating composition to repair the defects in the coating composition wherein the powder coating composition has a mean particle size range of 1 to about 90 μm and comprises a heat-curable binder that is either self-crosslinked or externally crosslinked. In contrast, Fujisawa does not use or suggest the use of such a powder to repair a coating. The Examiner states that Fujisawa uses a "powdery" composition and points to the disclosure on col. 3, lines 3-4 and 62-63. Further reading in Fujisawa, col. 7, lines 14-33, shows that this "powdery" coating is a pelletized repair coating prepared by compression molding of a powder or thermally meltable coating composition. This certainly is not the powder coating composition set forth in the amended claims. To draw an analogy, Fujisawa discloses the use of boulders while Applicants use sand in their process. In the description set forth in col. 7, lines 23-25, Fujisawa's process operates by heating the compressed molded particles with a laser beam and allowing the composition to flow into the cavity that is being repaired (see Fig 4(c) and Fig. 4(d) of Fujisawa). In contrast, Applicants use a powder coating composition that has a very small particle size, not disclosed or suggested by Fujisawa, wherein the particles flow into any area that is being repaired and then are heated with NIR radiation to crosslink and resulting in a repair of the finish.

The Examiner combined the teachings of Sukejima with Fujisawa to show that a powder coating having the particle size of Applicants' powder coating would be selected by one skilled in the art. However, the Examiner's position is totally incorrect. Sukejima uses a "putty" to repair a damaged finish and **NOT** a powder coating composition. The Examiner points to the paragraph on col. 13, lines 43-54, of Sukejima for the example of particle size of the powder that can be used. A close reading of the paragraph shows that polymers having the particle size of 30 μm or less can be used to form the putty used in Sukejima's repair process and not that powder coatings having this particle size can be used as a repair coating. Further reading of the next paragraph of Sukejima, col. 13, lines 54-64, points out that the use of more than 100 parts of resin (meaning polymer powder) with compound (B),

which is a polymerizable unsaturated compound disclosed on col. 3, lines 18 and following, causes an increase in the viscosity of the putty resulting in reduced workability. It very clear that Sukejima forms a putty for repairing coating compositions and does not use a powder as alleged by the Examiner. Obviously, if the putty was a powder coating, which it is not, there would be no increase in viscosity. In the rejection, the Examiner has taken the teachings of Sukejima completely out of context. Powder coatings of the small particle size used in Applicants' novel process are simply not taught by Sukejima.

In step (b) of Applicants' process, the NIR wave length, the NIR density and the irradiation time have been clearly set forth in the amended claims. Fujisawa does not teach the use of NIR radiation but prefers to use a laser beam to cure the composition. Infra red and far infrared curing is disclosed but not NIR radiation curing nor is the wave length, density or time taught which are important parameters of Applicants' process. Applicants' primary objective in using NIR is to provide sufficient radiation to rapidly cure the powder coating composition without any excessive heating of the substrate, which may cause distortion, for example, of a low melting plastic substrate, or, for example, if the part being refinished was adjacent to a heat distortable material or a material that would be destroyed by excessive heat. The amended claims set forth NIR exposure conditions that are not taught or suggested by either Fujisawa or Sukejima. Sukejima does state that NIR can be used but does not provide any indication of density of radiation to be used or the time of radiation. Further, to make his repair putty operative, Sukejima requires the presence of infra red ray absorbing cationic dye (see Sukejima, col. 4, lines 37-46) that Applicants do not use in their powder coating composition.

Claims 11-13, 15-21, 23-29, 31 and 32 were rejected as being obvious in view of Fujisawa. Each of these claims is either directly or indirectly dependent on claim 10 and contains the patentable components of claim 10. The above points made in regard to the main claim 10 as amended also apply to these claims. As the Examiner has recognized in the office action, Fujisawa does not teach that an aqueous powder coating slurry is to have the same solids content as that of the coating being repaired as set forth in claim 17. Further, Fujisawa does not teach that the binder of the powder coating used is an epoxy functional acrylic and a compound having at least two carboxyl functional groups as set forth in claim 19 or the

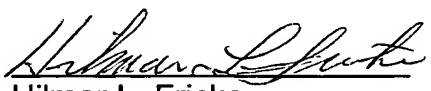
compositions of claims 24 and 26 or the optimum ingredients of claims 25 and 27. Claim 32 is not taught by Fujisawa, col. 6, line 30 since NIR radiation is not taught and there is no teaching or suggestion that the various heating methods set forth could be used in combination.

SUMMARY

Applicants have amended the claims to clearly distinguish their process from the cited prior art. In the above discussion, Applicants have pointed out that a powder coating composition having a given particle size and a binder of a heat curable composition that is either self crosslinking or externally crosslinked is used while neither references, Fujisawa nor Sukejima uses such a powder coating as set forth in the amended claims. Fujisawa uses a pelletized composition of a compacted powder while Sukejima uses a putty and not a powder. Neither meets the criteria of the powder coating required by Applicants in the amended claims. Fujisawa does not teach the use of NIR radiation but broadly suggests IR and far IR along with a number of other heat curing methods. While Sukejima discloses NIR, the density and time parameters, which are important aspect of Applicants process, are not disclosed. The invention as set forth in the amended claim would not be obvious to one skilled in the art in view of the failure of either reference of the combination of these reference to show the important parameters of Applicants' novel process.

In view of the foregoing amendments and remarks, Applicants submit that this application is in condition for allowance. In order to expedite disposition of this case, the Examiner is invited to contact Applicants' representative at the telephone number below to resolve any remaining issues. Should there be a fee due which is not accounted for, please charge such fee to Deposit Account No. 04-1928 (E.I. du Pont de Nemours and Company).

Respectfully submitted,



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